

cùm ferè in ea fuerim opinione, illam vel nunquam, ut plerumque factum fuit, vel tam citò non redituram, ad locum illum haud sæpius oculos direxi; nec fieri id quidem poterat, cùm hac hyeme, nocturno tempore, circa & infra Horizontem Caput Cygni perpetuo hæserit. Certus interim sum, ad mensem Decemb. Januar. imo Februarii haud conspicuam fuisse. Etenim post 14. Octobris, quo videri desiit, memini me eam sæpius quævisse eo in loco, sed nusquam apparuisse. Idcirco, quantum colligere datur, vix ante initium Martij, quin, sine dubio, adhuc tardius iterum prodiit. Pridie eam à reliquis quibusdam Fixis sum dimensus. Distat à Cauda Cygni, 20 gr. 55'. 20"; ab ancone Alæ superioris Cygni, 17 gr. 47'. 50"; à Capite vero Serpentarii, 34 gr. 19'. 40"; sic ut eodem planè loco adhuc persistat, ubi antea fuerat.

De reliquo, mihi persuadeo, cùm semel, & quidem intra adeò breve temporis spatium redierit, illam sæpius fore invisibilem, rursusq; conspicuam, cum incremento & decremento illius, quæ in Collo Ceti est, adinstar. Proinde operæ pretium fuerit, cùm Philosophiæ plurimum inter sit scire, An dentur evidentes ejusmodi alterationes in Cælo plures, ubi diligentius impostero ad eam attendamus; possitne certa quædam Hypothesis de ejus occasu & ortu, decremento item & incremento, à nobis excogitari? Et an singulis annis, ut Stella in Collo Ceti, sub aspectum veniat? An certo anni & omni tempore sub aspectum veniat, pari ratione; an vero cum retardatione vel anticipatione aliqua certa? Et denique, an semper æquali magnitudine, simili colore & lumine prodeat, permaneatque? Ego, dante Deo, meam operam hac in parte polliceor; reliqui Uraniæ cultores quin idem facturi sint, nullus dubito.

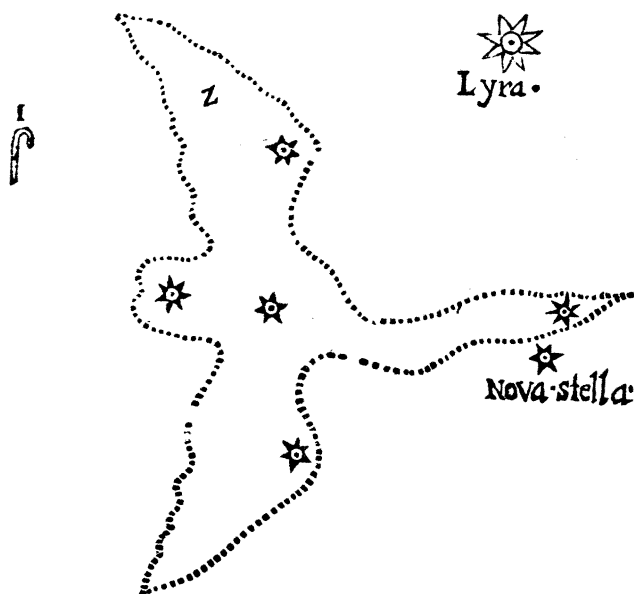
Another Account of the same Subject, Englished out of the French Journal des Scavans, printed at Paris the 22th of June 1671.

THe New Star, which Don Anthelme, a Carthusian of Dyon, hath lately discover'd *, is one of the rarest Appearances observed this good while. As this person contemplated the Heavens at night, June 20th of the last year, desirous to discover that admirable Star, which hath appear'd and disappear'd twice since the beginning of this Century in the Constellation of the

* See Numb. 65. p. 2092. Where the time mentioned of the first discovery of this Star, differs from that of the relation of this Journal, and is doubtless hence to be corrected.

the *Swan* *; he perceived near the same Constellation * *Which is that in*
 a Star of the *Third Magnitude*, which he had never yet *Pectore Cygni.*
 observed. He presently signified it to the Company which assembleth
 in the Library of the King: And divers of that Assembly having be-
 held the Heavens about the end of *June* and the beginning of *July*,
 took notice, that there was indeed about the *Beak* of the *Swan* a *New*
Star of the *third magnitude*, not to be met with in any Catalogue of
 Astronomers, although many other neighbouring Stars, that are much
 smaller, be exactly marked by them. It was scituate as appears in the
 following figure *.

* See Fig. 2.



The Obliquity of the *Ecliptick* supposed to be $23\frac{1}{2}$ degrees, the *Lon-*
gitude of this Star, according to the Observation of Mr. *Picard*,
 was _____ $1^{\circ}.55'$ of *Aquarius*.

The *right Ascension* _____ 293.33 .

The *Boreal Latitude* _____ 47.28 .

And the *Declination* _____ 26.33 .

It came to the *Meridian* after the Star in the
 Beak of the *Swan* _____ $16'.44''$.

And before the *lucid* Star of the *Eagle* _____ 0.27 .

It was distant from the great Star of the
 Constellation of *Lyra* _____ $18^{\circ}.39.40$.

From the *Beak* of the *Swan* _____ $3.47.30$.

And from the *Tail* of the *Swan* _____ $20.54.30$.

H h h

But

But that which is further remarkable, is, that in the beginning of *July* * this Star was observed to decrease. In the night of *July* 3d, it appear'd yet of the *Third magnitude*, but her Light was sensibly fainter. In the night of the 11th of the same month, she scarce appear'd of the *Fourth magnitude*. In the night of *August* 10th, she was but of the *Fifth*. And she hath ever since decreased still, so that at last she became so small that she was seen no more.

And so she hath remained for six months without shewing her self, and we could not discover her again till the night of *March* 17th last, when *Don Anthelme* spied her in the very same place, where she was the year before, and found, that she was of the *Fourth magnitude*.

The Assembly that meets in the Kings Library, having notice thereof, several of them did observe this Star in the night of the 2d of *April* last, finding her in the self same place where they had seen her the precedent year. The 3d of the same month *M. Cassini* found her greater than the two Stars of the *Third magnitude* that are below in the Constellation of *Lyra*, but a little smaller than that in the Beak of *Cygnus*.

The 4th of the same month, she appear'd to him almost as great and much more radiant than that of the Beak of the *Swan*.

The 9th of the same, he found her a little diminish'd; and almost equal to the greatest of the two Stars that are below in *Lyra*.

The 12th, she was equal to the least of these two Stars.

The 15th, he perceived that she encreased, and he found her equal, the second time, to the greatest of these two Stars.

From the 16th unto the 27th, she appear'd of different magnitudes, being sometimes equal to the biggest of these two Stars, sometimes equal to the least, and now and then between both.

But the 27th and 28th, she was become as big as the Star in the *Swan's beak*: The 30th, she appear'd a little clearer. And the first six days in *May*, she was greater.

The 15th of *May* she was seen smaller than the same Star. The 16th, she was in bigness between the two Stars that are below in *Lyra*: And ever since she hath still diminished.

Thus this Star hath been twice in her greatest splendour, first on the 2th of *April*; and the second time, in the beginning of *May*: Which we read not to have ever happen'd to any other Star.

As far as can be judged from the few Observations made of this Star, 'tis likely she is returning about *Ten* months unto the same appearance; whereas that in the *Whale's Neck* maketh its revolution in *Eleven* months. As for the Star in the *Swans Breast*, we have as yet no certain knowledge of the period of her revolution;
yet

yet one may assure, that she taketh no less than *Fourteen years* to finish it.

The Discoveries, that have been made in the Heavens this last age, do evince, that Changes are not so rare there, as formerly was believed. If that was true, what *Pliny* saith, that *Hipparchus*, on the occasion of a New Star he perceived, made an Enumeration of all those which appear'd at that time, there would not be any one Constellation, in which some change were not found since that time, in regard there are few, wherein there be not found more Stars now than that Astronomer hath noted in them.

But as the little assurance we have of the exactness of *Hipparchus* his Catalogue giveth us cause to believe, that many Stars, which were not in that Catalogue, were yet in the Heavens; so we may well grant, that some of those, that have been observed since, have not appear'd always. For, not to speak of the Stars, that have been seen in the Constellation of *Cassiopea*, in the Neck of the *Whale*, in the Breast of the *Swan*, and in *Serpentarius*; Monsieur *Cassini* hath discover'd many other little ones*, which may very well be presumed to be New. For example, he hath observ'd one of the *Fourth magnitude*, and two of the *Fifth* in *Cassiopea*, where 'tis certain they were not seen before, many

* Compare those, discover'd by M. Hevelius, in Numb. 65. p. 2091.

Astronomers having exactly reckon'd up the very smallest Stars of that Constellation, and yet not one of them mention'd those three. He hath discover'd Two others, towards the Beginning of the Constellation of *Eridanus*, where we were sure they were not yet about the end of the Year 1664, considering that this place of the Heavens, vvhere pass'd the then appearing Comet, was diligently beheld by many, who perceived divers other small Stars, without observing those two. The same hath also observed, towards the Arctick Pole Four of the *Fifth* or *Sixth magnitude*, which Astronomers, that always have their Eyes upon that place, vvould not have failed to note, if they had there appear'd before.

Nor are we to wonder at it, that we see now more Stars in the Heavens than there appear'd formerly, seeing there appear'd those formerly, vvhich are seen no more novv. For M. *Cassini* hath observ'd, that the Star, vvhich *Bayerus* puts near that vvhich he marketh in the Figure of *Ursa minor*, appears no more; that that, which is marked A in the Figure of *Andromeda*, is also disappear'd; that in lieu of that, vvhich is marked v, at the knee of the same figure, there are two others more Nordward; and that that, vvhich is noted ξ, is very much diminisht. The Star, vvhich *Tycho* placeth at the extremity of *Andromeda's Chain*, and calls it of the *Fourth magnitude*, is novv so small that one can scarce see it: And that vvhich is in his Catalogue the 20th of the Constellation of *Pisces*, is novv no more seen; unless you will say, that it is gone down lower than *four*

degrees, to the place marked \circ in the Figure of *Bayerus* *.

* We cannot omit taking notice here of what was communicated to the *R. Society*, about the same subject, in a Letter of April 30. 1670. by Signor *Montanari*, the Learn'd Professor of the Mathematicks in *Bononia*, in these words: *Multa possem certè nova de Cælo Vobis tradere, quæ à multis annis observo, atque Firmamento meo Infallibili exponendo ac propediem evulgando suppeditavero; sed unum, quod cæteris admirabilius est, proferam. Desunt in Cælo duæ Stellæ Secundæ Magnitudinis in Puppi Navis ejusve Transitus, Bayero β & γ , prope Canem majorem, à me & aliis, occasione præsertim Comete A. 1664. observata & recognita. Earum Dispositionem cui Anno debeam, non novi; hoc indubium, quod à die 10. April. 1668. ne veltigium quidem illarum adesse amplius observo; cæteris circa eas, etiam quarta & quinta magnitudinis, immotis Plura de aliarum Stellarum mutationibus, plusquam centenis, at non tanti ponderis annotavi, &c.*

But vve are not therefore presently to say, that the Stars, that have been lately discover'd, were not in the Heavens before, although they vvere not seen there. For, as vve now know, that there are Stars, vvhich appear and disappear from time to time, so we have cause to suspect, that most of the Stars, that vvere not seen formerly, or that are seen no more novv, or are found diminish't, are of the same nature vvith the Star in the *Whal's Neck*, and do not cease to be in the Heavens, though they there appear not.

It is also possible, that these New Stars not only vvere in the Heavens, but even appear'd there before they vvere taken notice of as

New ones: And it is very probable, that 'tis also vvith most Stars, as vvith that in the Neck of the Whale, vvich vvas not observed at first, but vvhen it vvas already of the *third* magnitude; although it hath been since found, that it is not really so great vvhen it begins to appear, but that, being very small in the beginning, it encreaseth insensibly untill it come to that greatness.

However, these Phenomena deserve always to be carefully observed by all Astronomers.

An Answer of Dr. *Wallis* to Mr. *Hobbes's Rosetum Geometricum* in a Letter to a friend in *London*, dated July 16. 1671.

Clarissime vir,

Perlegi Hobbij sive Rosetum, sive Fimetum, (nam utrumque olet;) in quo antiquum obtinet: Mirumque est, ut nec sibi in animum inducere possit, nec ab amicis suaderi, ne sic delirando persistat se contemptui exponere. Notata quædam hic tibi mitto: non quasi metuerim, te talibus ratiociniis seauci posse, sed ut tu, alique, quibuscum hac forte communicaveris, sine anxîâ consideratione denuò instituendâ, statim videatis ubi potissimum peccatur.

Primæ Propositionis, sive Problematis, constructio (ut ut in re facili) falsa est. Rectam extremâ & mediâ ratione secare; docuerat Euclides, & demonstraverat, prop 30. El. 6. (cui & alii hætenus consenserunt.) Secundum quem, positâ rectâ secundâ $1R$, erit majus segmentum $\frac{1}{2}R$; adeoque segmentum